

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A branched polylactic acid derivative of formula (1)[[::]] for forming micelles in an aqueous solution with a pH of 4 or more:

<formula 1>

I-(R-X)_n (1)

Wherein,

R is -[R₁]_k-[R₂]_m-,

wherein R₁ is -C(=O)-CHZ-O-,

R₂ is selected from the group consisting of -C(=O)-CHY-O-, -C(=O)-CH₂CH₂CH₂CH₂O-
[[or]]and -C(=O)-CH₂-O-CH₂CH₂-O-, wherein each of Z and Y is selected from the group
consisting of hydrogen, methyl, [[or]]and phenyl,

k is an integer of 1-30,

m is an integer of 0-30;

X is -C(=O)-(CH₂)_a-C(=O)-O-M, wherein a is an integer of 0-10, M is selected from the group
consisting of hydrogen, sodium, potassium, [[or]]and lithium;

I is selected from the group consisting of diol [[or]]and polyol having 3-12 hydroxy groups;

n is an integer of 2-12, and is the same as the number of hydroxy [[group]]groups that I
has[[.]], and wherein I is selected from the group consisting of ethylene glycol, propanediol,
butanediol, pentanediol, hexanediol, glycerol, erythritol, threitol, pentaerythritol, xylitol,
adonitol, sorbitol, mannitol, disaccharide and trisaccharide.

2. (Original) The polylactic acid derivative according to claim 1, wherein the branched polylactic acid derivative has the number average molecular weight of 1,000-18,000 Dalton.

3. (Original) The polylactic acid derivative according to claim 1, wherein R is mono polymer or copolymer which is one or more selected from the group consisting of lactide, glycolide, caprolactone, 1,4-dioxane-2-one, and mandelic acid.

4. (Original) The polylactic acid derivative according to claim 1, wherein M is sodium, potassium or lithium.

5. (Currently Amended) The polylactic acid derivative according to claim 1, wherein ~~I is selected from ethyleneglycol, propanediol, butanediol, pentanediol, hexanediol, glycerol, erythritol, threitol, pentaerythritol, xylitol, adonitol, sorbitol, mannitol, the disaccharide is selected from the group consisting of palatinose, maltose monohydrate[[,]]and maltitol, [[or]]and the trisaccharide is D-raffinose pentahydrate.~~

6. (Cancelled)

7. (Currently Amended) A preparation-method of preparing the polylactic acid derivative according to one of claims 1 to [[6,]]~~5~~, comprising the steps of :

1) polymerizing a monomer of lactides in the presence of an initiator and a catalyst to obtain a branched polylactic acid;

2) dissolving the branched polylactic acid obtained in step 1) in a water-miscible organic solvent, purifying the branched polylactic acid by adding an aqueous solution [[of]]~~with~~ a pH of 7 or more, and drying in vacuum, to obtain a powder form of the branched polylactic acid; and

3) reacting the branched polylactic acid derivative obtained in step 2) with succinic anhydride or a dichloride compound to obtain the branched polylactic acid derivative containing earboxy-terminal carboxy group[[,]], wherein the initiator of step 1) is selected from the group consisting of ethylene glycol, propanediol, butanediol, pentanediol, hexanediol, glycerol, erythritol, threitol, pentaerythritol, xylitol, adonitol, sorbitol, mannitol, disaccharide and trisaccharide.

8. (Currently Amended) The preparation-method of the polylactic acid derivative according to claim 7, further comprising the step of adding an alkali metal salt to the branched polylactic acid derivative obtained in step 3) to obtain the branched polylactic acid derivative containing carboxy alkali metal salt terminal group.

9. (Currently Amended) The preparation method according to claim 7, wherein the dissacharide is selected from the group consisting of initiator of step 1) is selected from ethyleneglycol, propanediol, butanediol, pentanediol, hexandiol, glycerol, erythritol, threitol, pentaerythritol, xylitol, adenitol, sorbitol, mannositol, palatinose, maltose monohydrate[[.]]and maltitol, [[or]]and the trisaccharide is D-raffinose pentahydrate.

10. (Currently Amended) The preparation method according to claim 7, wherein in step 3, the branched polylactic acid derivative is reacted with [[the]]a compound which is selected from [[a]]the group consisting of succinic anhydride, oxalyl chloride, malonyl chloride, succinyl chloride, glutaryl chloride, adipoyl chloride, sebacoyl chloride, and dodecadioyl dichloride.

11. (Currently Amended) The preparation method according to claim 8, wherein the alkali metal salt is selected from [[a]]the group consisting of sodium hydrogen carbonate, sodium carbonate, potassium hydrogen carbonate, potassium carbonate, and lithium carbonate.

12. (Currently Amended) A composition fora poorly_s, water-soluble drug delivery agent,s containing the polylactic acid derivative according to any one of claims 1 to [[6.]]5.

13. (Currently Amended) A pharmaceutical composition containing the polylactic acid derivative according to any one of claims 1 to [[6.]]5 anda poorly_s, water-soluble drugs.drug.